AMENDMENTS TO THE CLAIMS:

The following Listing of Claims replaces all prior Listings and versions of claims in the above-identified application.

Listing of Claims

1. (Original) A method for production of an organic acid and ammonium nitrate, comprising:

a. reacting a cation/organic acid salt in a solution with nitric acid to acidify the organic acid and form a salt of the cation and nitrate, wherein the cation can form an insoluble carbonate salt;

b. recovering the organic acid from the solution; and

c. reacting the cation/nitrate salt with ammonium carbonate to form ammonium nitrate and an insoluble carbonate salt.

2. (Original) The method, as claimed in Claim 1, wherein the organic acid is selected from the group consisting of acetic acid, lactic acid, succinic acid, propionic acid, butyric acid, citric acid, benzoic acid, sorbic acid, tartaric acid, malic acid, gluconic acid, and fumaric acid.

3. (Original) The method, as claimed in Claim 1, wherein the organic acid salt is produced by fermentation in a fermentation medium.

4. (Original) The method, as claimed in Claim 3, wherein the fermentation medium was neutralized with the insoluble carbonate salt.

5. (Original) The method, as claimed in Claim 4, wherein the cation is calcium and the insoluble carbonate salt is calcium carbonate.

6. (Original) The method, as claimed in Claim 5, wherein the step of neutralizing is selected from the group consisting of addition of calcium carbonate to the fermentation medium and addition of calcium oxide produced by calcination of calcium carbonate to the fermentation medium.

7. (Original) The method, as claimed in Claim 1, wherein the cation is selected from the group consisting of calcium, magnesium, barium, strontium and zinc.

8. (Original) The method, as claimed in Claim 1, wherein the step of recovering is selected from the group consisting of distillation, extraction, reactive separation, crystallization, stripping and dialysis.

9. (Original) The method, as claimed in Claim 1, further comprising processing the ammonium nitrate into a fertilizer product.

10. (Original) The method, as claimed in Claim 1, wherein the step of reacting a cation/organic acid salt in a solution with nitric acid comprises contacting the cation/organic acid salt in a solution with an ion exchange resin to acidify the organic acid and regenerating the ion exchange resin with nitric acid to form a salt of the cation and nitrate.

11. (Original) A method for production of an organic acid and ammonium nitrate, comprising:

a. conducting a fermentation to produce an organic acid salt in a fermentation medium;

b. neutralizing the fermentation medium with a carbonate comprising a cation that can form an insoluble carbonate salt, whereby a salt comprising the cation and the organic acid is formed;

c. acidifying the cation/organic acid salt with nitric acid to form an acidified organic acid and a salt of the cation and nitrate;

d. recovering the organic acid; and

e. reacting the cation/nitrate salt with ammonium carbonate to form ammonium nitrate and an insoluble carbonate salt.

12. (Original) The method, as claimed in Claim 11, wherein the organic acid is selected from the group consisting of acetic acid, lactic acid, succinic acid, propionic acid, butyric acid, citric acid, benzoic acid, sorbic acid, tartaric acid, malic

acid, gluconic acid, and fumaric acid.

13. (Original) The method, as claimed in Claim 11, wherein the insoluble carbonate salt is selected from the group consisting of calcium carbonate, magnesium carbonate, barium carbonate, strontium carbonate and zinc carbonate.

14. (Original) The method, as claimed in Claim 11, wherein the insoluble carbonate salt is calcium carbonate.

15. (Original) The method, as claimed in Claim 14, wherein the step of neutralizing is selected from the group consisting of addition calcium carbonate to the fermentation medium and addition of calcium oxide produced by calcination of calcium carbonate to the fermentation medium.

16. (Original) The method, as claimed in Claim 11, wherein the step of recovering is selected from the group consisting of distillation, extraction, reactive separation, crystallization, stripping and dialysis.

17. (Original) The method, as claimed in Claim 11, wherein the insoluble carbonate salt formed by reacting the cation/nitrate salt with ammonium carbonate is used in the step of neutralizing.

18. (Original) The method, as claimed in Claim 11, further comprising processing the ammonium nitrate into a fertilizer product.

19. (Original) The method, as claimed in Claim 11, wherein the step of acidifying the cation/organic acid salt with nitric acid comprises contacting the cation/organic acid salt with an ion exchange resin to acidify the organic acid and regenerating the ion exchange resin with nitric acid to form a salt of the cation and nitrate.

20. (Original) A method for production of an organic acid and ammonium nitrate, comprising:

a. conducting a fermentation to produce a salt of an organic acid selected from the group consisting of acetic acid, lactic acid, succinic acid, propionic acid, butyric acid, citric acid, benzoic acid, sorbic acid, tartaric acid, malic acid, gluconic acid, and fumaric acid in a fermentation medium;

b. neutralizing the fermentation medium with calcium carbonate, whereby a calcium/organic acid salt is formed;

c. acidifying the calcium/organic acid salt with nitric acid to form an acidified organic acid and calcium nitrate;

d. recovering the organic acid;

e. reacting the calcium nitrate with ammonium carbonate to form ammonium nitrate and calcium carbonate; and

f. processing the ammonium nitrate into a fertilizer product.